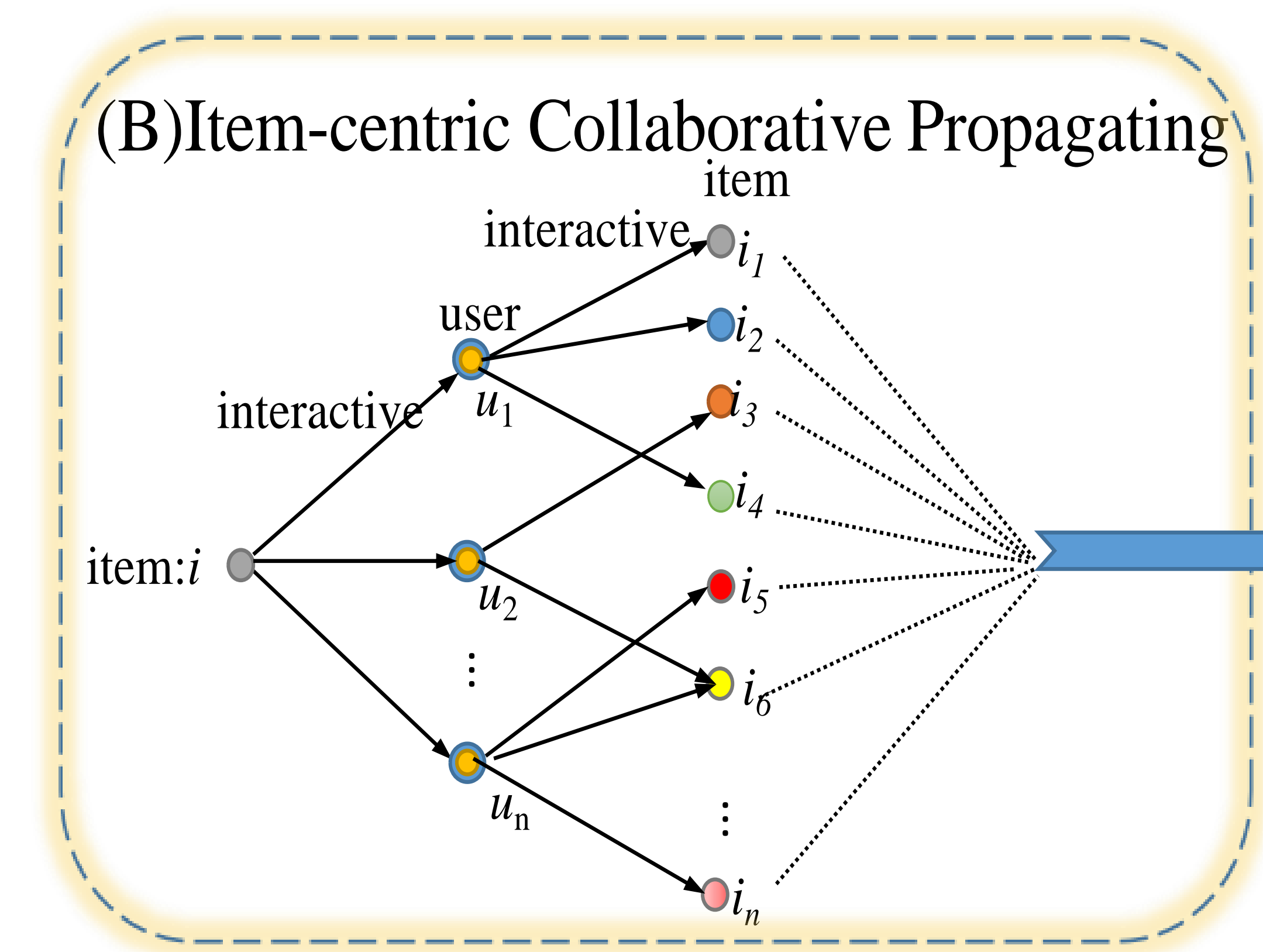
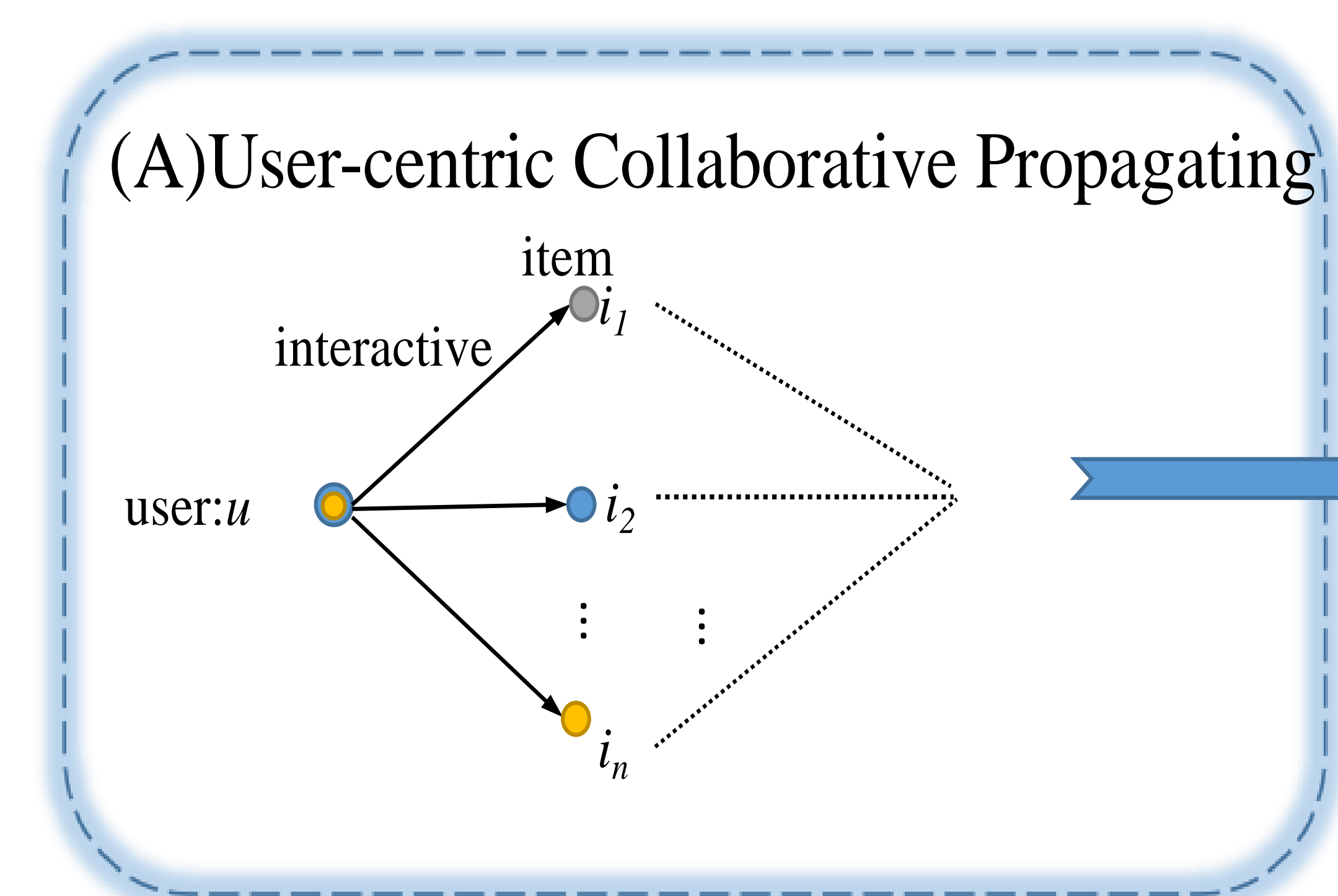
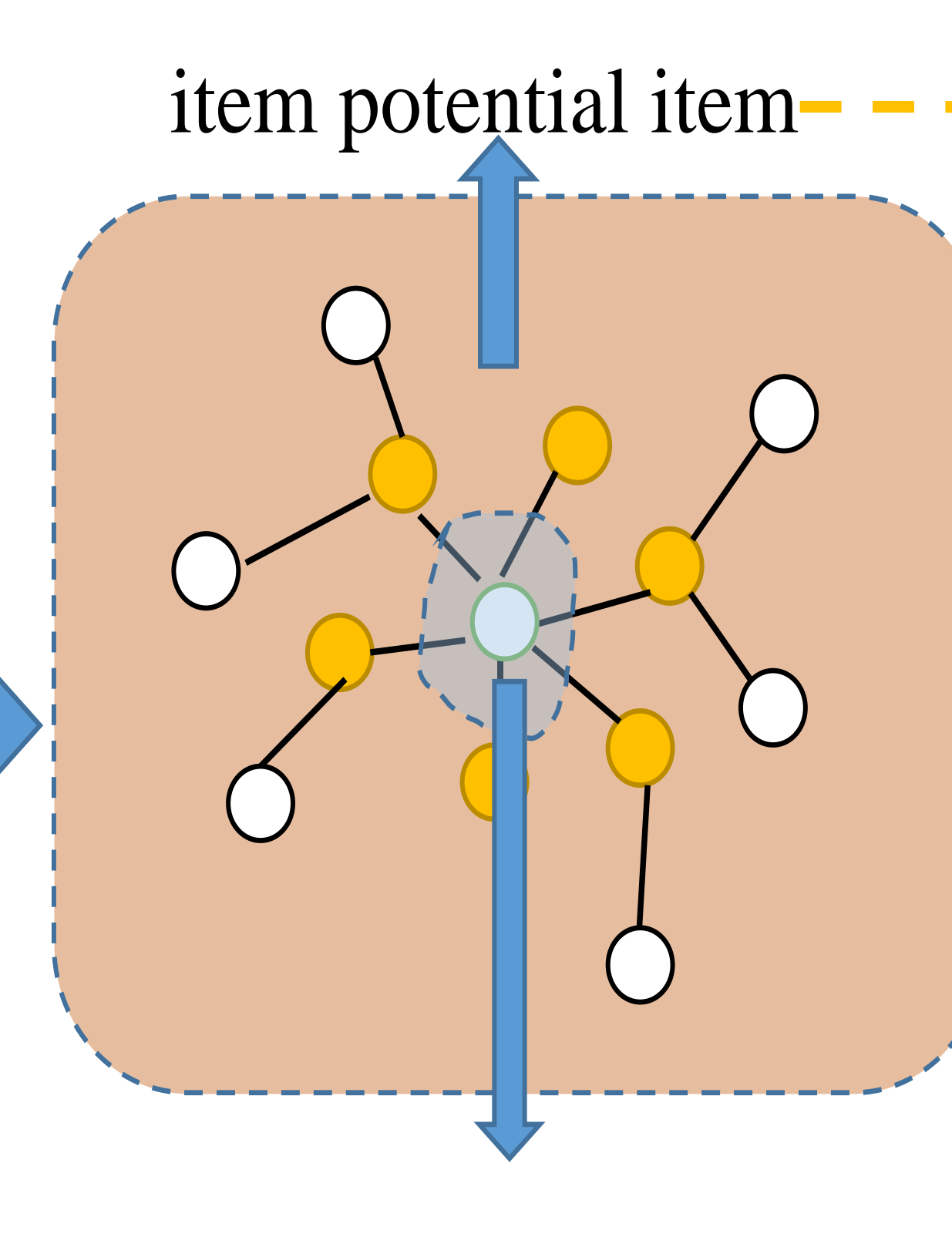
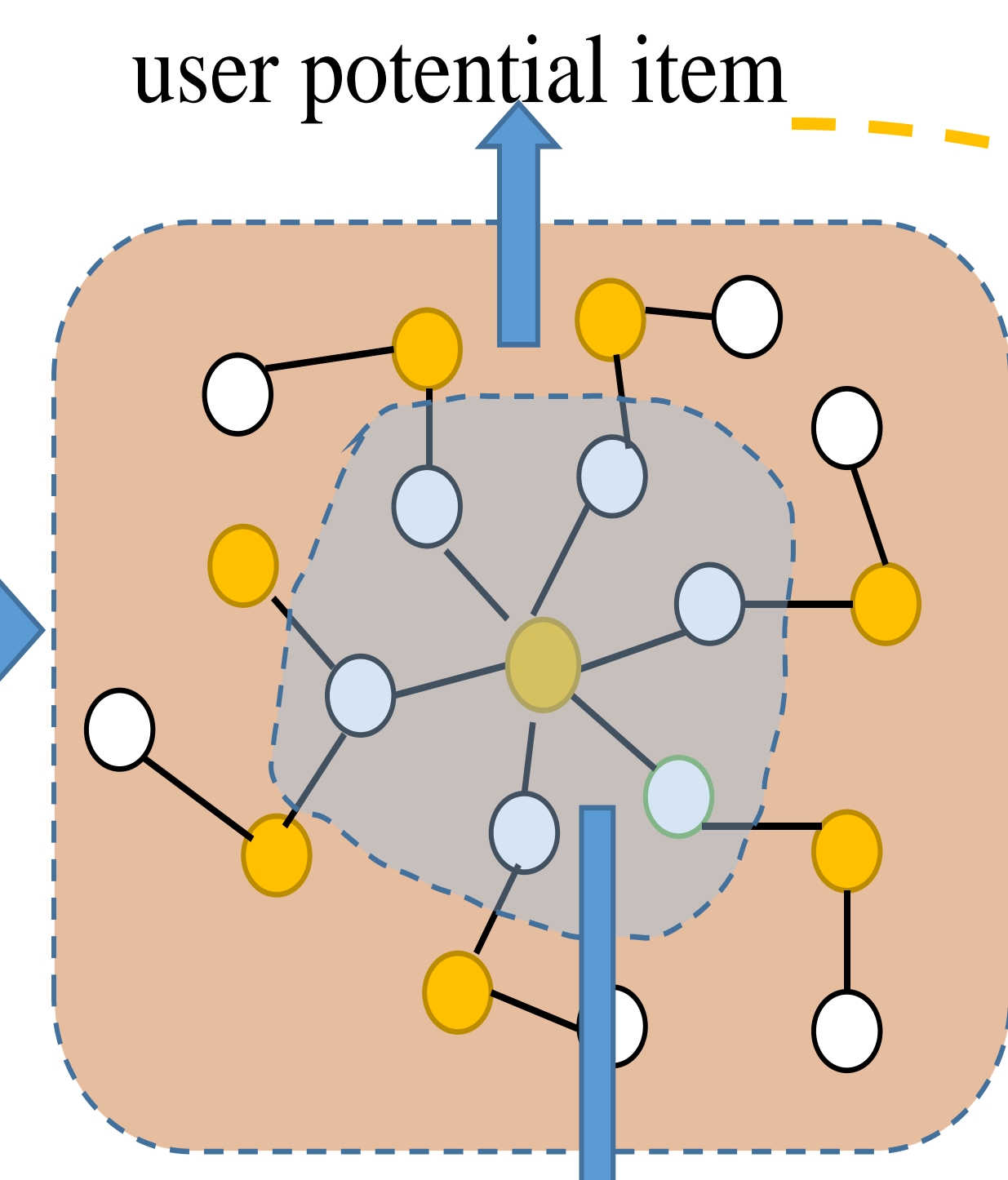


- \odot concatenation
- \otimes element-wise \times
- \oplus element-wise $+$

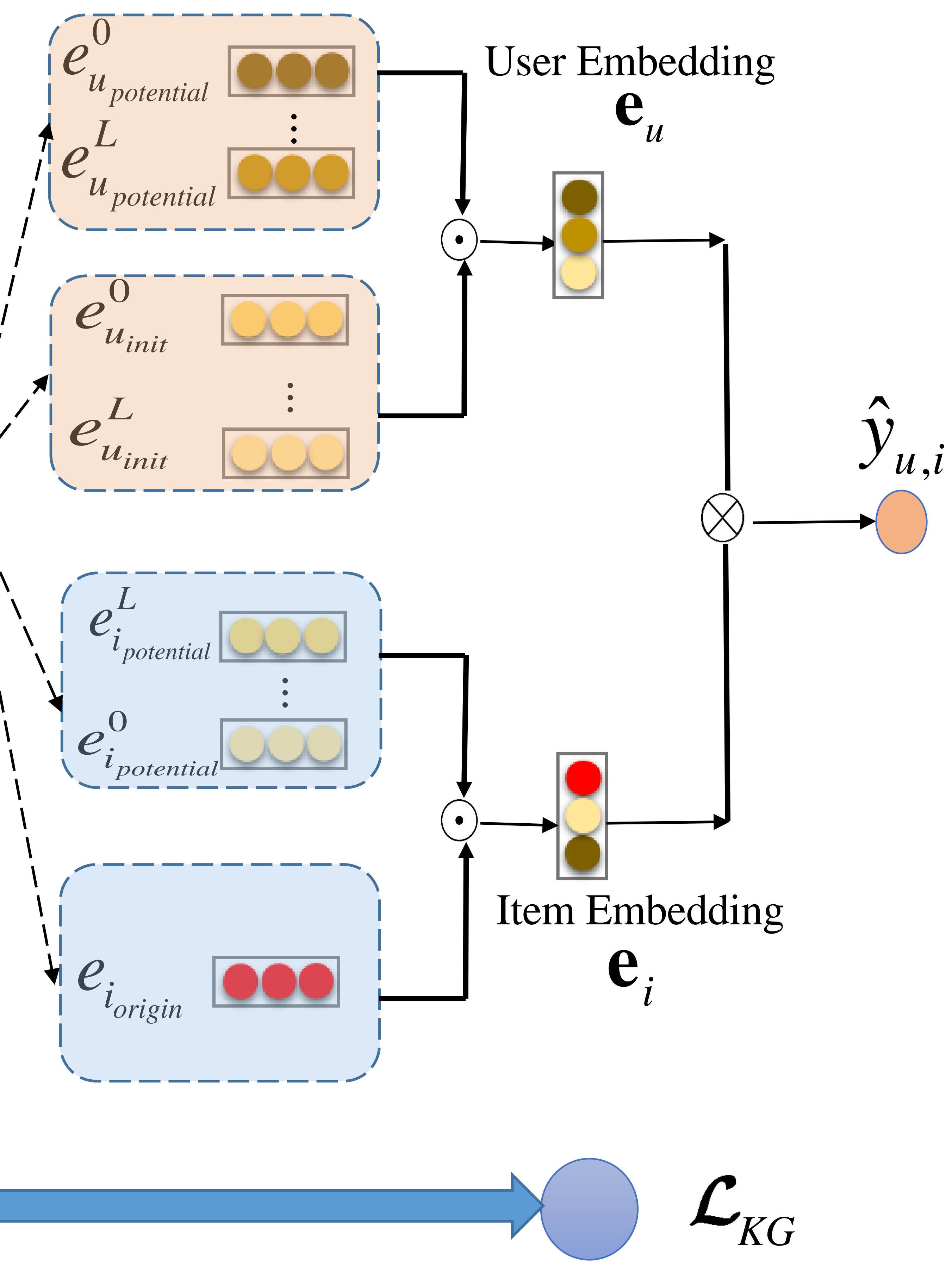
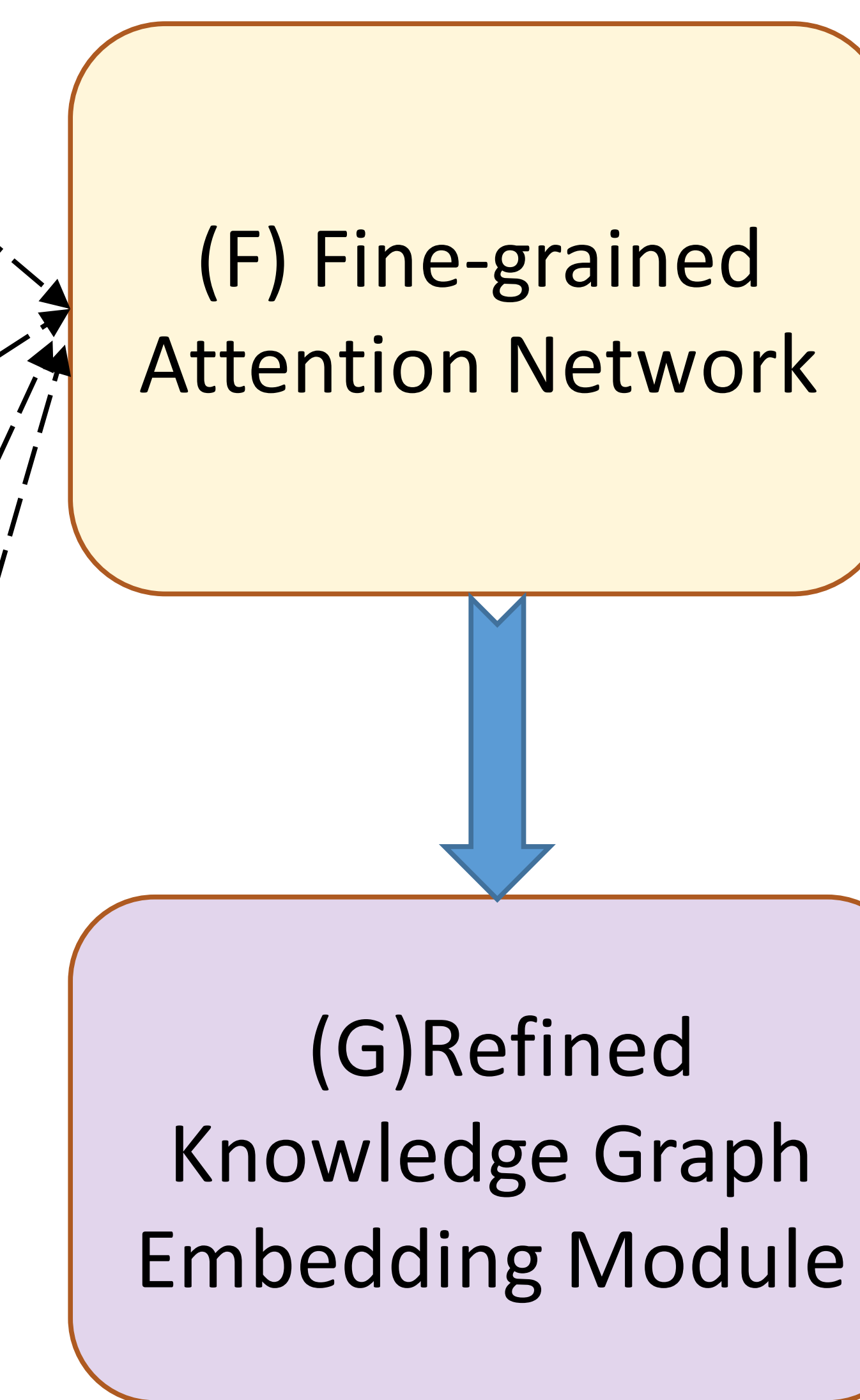
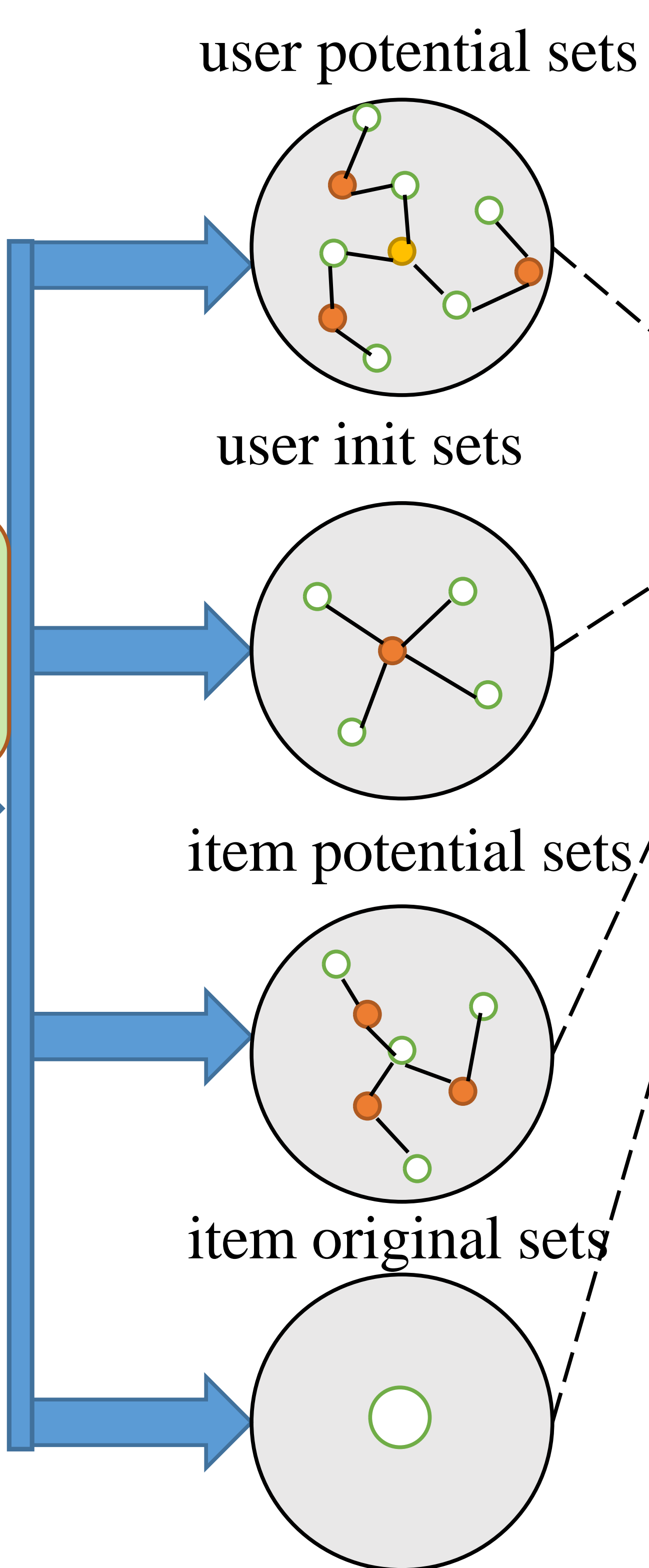


(C) Heterogeneous Graph Collaborative Propagation



(D) Knowledge Graph Propagating

(E) Neighbor Sampling



\mathcal{L}_{KG}